



BOX AFTER FINAL

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Brian HARDEN et al.

Art Unit: 1791

Serial No.: 10/647,262

Examiner: Mathieu D. Vargot

Filed: August 26, 2003

Confirmation No. 2074

For: METHOD FOR REPLICATING OPTICAL
ELEMENTS, PARTICULARLY ON A
WAFER LEVEL, AND REPLICAS FORMED
THEREBY (AS AMENDED)

Attorney Docket No.: 280/016DC

REASONS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop: BOX AF
Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INTRODUCTORY COMMENTS

In response to the Office Action Made Final mailed June 25, 2009, further to the Reply filed August 25, 2009 and the Advisory Action mailed September 9, 2009, the following remarks are respectfully submitted in connection with the above-identified application.

Claims 15-30, 38, 41-46, 51-55, 57, 61, 62, and 65-70 are currently pending in the subject application. Claims 28-30, 38, 46, 51-55, and 57 are withdrawn from consideration. Claims 15, 53, and 57 are independent.

A. Introduction

In the outstanding Office Action Made Final:

1. claims 15-17, 19-23, 41, 61, and 62 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 175,460 (“the EP ’460 reference”) in view of EP 164,834 (“the EP ’834 reference”);
2. claims 18, 27, and 42-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the EP ’460 reference in view of the EP ’834 reference and U.S. Patent No. 5,772,905 to Chou (“the Chou reference”);
3. claims 24-26 and 65-70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the EP ’460 reference in view of the EP ’834 reference and U.S. Patent No. 4,731,155 to Napoli et al. (“the Napoli et al. reference”); and
4. claims 15-27, 41-45, 61, 62, and 65-70 were rejected on the ground of nonstatutory obviousness-type double-patenting as being unpatentable over claims 1-29 of U.S. Patent No. 6,610,166.¹

B. Errors and Deficiencies in the Outstanding Rejections

In the outstanding Office Action Made Final, claims 15-17, 19-23, 41, 61, and 62 were rejected under 35 U.S.C. § 103(a) as being unpatentable the EP ’460 reference in view of the EP ’834 reference, as well as the remainder of the dependent claims over additional secondary references.

Claim 15 recites, in part:

simultaneously imprinting a replica of said plurality of optical elements in a material by applying the substantially planar surface of the master to the imprintable material;

providing a support substrate for the replica, the support substrate having first and second opposing parallel surfaces, the replica being on one of the first and second opposing parallel surfaces; . . . and

separating the support substrate through the first and second opposing parallel surfaces to form individual optical elements, each individual optical element including the hardened replica and the support substrate.

¹ A Terminal Disclaimer submitted January 7, 2007 has not been officially reviewed and accepted for compliance.

In the Advisory Action, the Examiner responds to the assertion by the applicants in the Reply dated August 25, 2009 that the alleged combination would destroy the purpose of the primary reference. The Examiner notes that the secondary reference was relied on as teaching forming multiple optical elements on a substrate and separating these into individual elements and asserts that “formation of multiple gratings in one step with the subsequent separation of these into individual, discrete elements would have been obvious in the primary reference based on the teaching of the secondary reference.”²

Applicants understand that the examiner was not proposing such a modification to destroy the functioning of the primary reference, but again submit that the manner in which the Examiner has made this combination is improper and uses hindsight reconstruction to pick and choose features of these references. Further, even with such picking and choosing, the references fail to suggest, much less disclose, all the elements of claim 15.

(i) No simultaneous replication of multiple optical elements

While the EP '460 reference may disclose using a master 10 to imprint a replica of elements 12, a *plurality* of elements 12 is required to form a grating pattern. Therefore, an individual element 12 cannot be interpreted as an individual optical element. In the EP '834 reference, the optical elements are formed by a diffusion process and have a continuous planar surface to be separated along lines 16. In other words, there is no teaching in either reference to **replicate a plurality** of optical elements **simultaneously** as recited in claim 15.³

(ii) No separation of replicated optical elements

Neither the EP '460 reference nor the EP '834 reference, either alone or in combination, suggest, much less disclose, separation of a support substrate having **replicas** thereon. The EP '834 reference teaches separating a substrate in which the optical elements are formed **in** the substrate. In contrast, when the optical elements are **on** the support substrate and of a different material,

² *Advisory Action mailed September 9, 2009, page 2.*

³ See, e.g., paragraphs [0062] and [0063] of the published application discussing issues associated with such simultaneous replication.

numerous issues arise in separating such as substrate while insuring proper functioning of the individual optical element. See, for example, paragraphs [0052], [0054], and [0074] of the published application, which discuss considerations of materials to be used, and paragraph [0076] of the published application, which discusses removing the material on portions not constituting the optical element itself.

(iii) No motivation to combine

In the Office action, it is asserted that combination of the cited references would have been obvious to a person of ordinary skill in the art “to form individual optical elements as desired.”⁴ Applicants respectfully submit that this statement is conclusory and does not comprise an “explicit rationale” as required by *KSR International*.⁵

For example, as the EP '460 reference specifically discloses that the substrate 16 is formed of metal, e.g., steel,⁶ a person of ordinary skill in the art would not be motivated to form multiple diffraction gratings on a single substrate in order to avoid sawing through a steel substrate. In fact, the disclosure of a steel substrate in the EP '460 reference teaches away from separating the substrate. Therefore, it is respectfully submitted that the teachings of the EP '460 reference and the EP '834 reference cannot be combined.

Therefore, it is respectfully submitted that neither the EP '460 reference nor the EP '834 reference, either alone or in combination, suggest, much less disclose, the limitations as recited in independent claim 15. The remaining secondary references fail to provide the teachings noted above. The remaining rejected claims depend, either directly or indirectly, from claim 15, and are believed to be allowable for at least the reasons set forth above.

C. Conclusion

The above remarks demonstrate the failings of the outstanding rejections, and are sufficient to overcome them. However, while these remarks may refer to particular claim

⁴ Office action of September 18, 2008, pages 2-3.

⁵ *KSR International, Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007).

⁶ The EP '460 reference, page 2, line 2.


elements, they are not intended to, nor need they, comprehensively address each and every reason for the patentability of the claimed subject matter over the applied art. Accordingly, applicants respectfully submit that the claims are allowable for reasons including, but not limited to, those set forth above, and patentability of the claims does not depend solely on the particular claim elements discussed above.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing, applicants respectfully request a pre-appeal brief review of each of the outstanding rejections.

Respectfully submitted,
LEE & MORSE, P.C.

Date: November 23, 2009



Susan S. Morse, Reg. No. 35,292

LEE & MORSE, P.C.
3141 FAIRVIEW PARK DRIVE
SUITE 500
FALLS CHURCH, VA 22042
703.207.0008 TEL
703.207.0003 FAX

PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.